

CLAIMS

Having thus described the present invention, what is claimed as new and desired to be secured by Letters Patent is as follows:

1. A method for identifying a configuration using an identifier having a plurality of digits, said configuration having a plurality of parameters and each of said parameters having a plurality of options, one of said options for each parameter corresponding to the configuration, said method including steps of
assigning each digit of the identifier to a different parameter of the configuration, assigning a value to each option for each parameter of the configuration, and constructing the identifier based on the value of each option corresponding to the configuration.
2. The method according to claim 1, said method further including steps of determining the greatest number of options for the parameters, and selecting a radix for the identifier, said radix being equal to or greater than the greatest number of options for a parameter of the configuration.
3. The method according to claim 2, said method further including a step of assigning an exponent to each digit of the identifier, the digits of the identifier ranging from a least significant rightmost digit having a digit place of one to a most significant leftmost digit,

4 each digit to the left of the least significant rightmost digit having a digit place equal to one
5 plus the digit place of the immediate adjacent right digit, and said exponent being equal to
6 the digit place minus one.

1 4. The method according to claim 3, said method further including a step of
2 calculating a parameter value for each parameter by multiplying the value of the
3 option corresponding to the configuration for each parameter by the radix raised to the
4 exponent for the digit of the identifier corresponding to the parameter for the option,
5 wherein the step of constructing the identifier based on the value of each option
6 corresponding to the configuration further includes calculating the sum of the parameter
7 values.

1 5. The method according to claim 4 wherein values assigned to options for a
2 parameter in excess of the tenth option are represented by symbols.

1 6. The method according to claim 5, wherein the options for a parameter include more
2 than one set of options, the applicability of a set being determined by the value of an option
3 for another parameter corresponding to the configuration.
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1 7. The method according to claim 6, wherein the step of constructing the identifier

based on the value of each option corresponding to the configuration further includes constructing the identifier based on the following equation:

$$\text{Identifier} = \sum_{i=1}^n \text{Option}_i \times R^{(i-1)}$$

Where:

n is the number of digits in the Identifier and the number of parameters in the configuration;

Option_i is the value of the option for the ith parameter represented by the ith digit of the Identifier, moving from right to left with the 1st digit being the rightmost digit and the nth digit being the leftmost digit; and

R is the radix for the Identifier.

8. A method of identifying a configuration using an identifier having a plurality of digits, said configuration having a plurality of parameters and each of said parameters having a plurality of options, one of said options for each parameter corresponding to the configuration, said method comprising steps of
 - assigning each digit of the identifier to a different parameter of the configuration,
 - assigning a value to each option for each parameter, and
 - constructing the identifier by assigning the value of each option corresponding to the configuration to the digit of the identifier corresponding to the parameter for the option.

9. The method according to claim 8 wherein each value assigned to an option for a parameter in excess of the tenth option is represented by a letter of the alphabet.

10. The method according to claim 9, wherein the options for a parameter include more than one set of options, the applicability of a set being determined by the value of an option for another parameter corresponding to the configuration.

11. The method according to claim 10, wherein the step of constructing the identifier by assigning the value of each option corresponding to the configuration to the digit of the identifier corresponding to the parameter for the option further includes constructing the identifier based on the following equation:

$$\text{Identifier} = \sum_{i=1}^n \text{Option}_i \times R^{(i-1)}$$

Where:

n is the number of digits in the Identifier and the number of parameters in the configuration;

Option_i is the value of the option for the ith parameter represented by the ith digit of the Identifier, moving from right to left with the 1st digit being the rightmost digit and the nth digit being the leftmost digit; and

14 R is the radix for the Identifier.

1 12. A method of identifying a configuration using an identifier having a plurality of digits,
2 said configuration having a plurality of parameters and each of said parameters having a
3 plurality of options, one of said options for each parameter corresponding to the
4 configuration, said method comprising steps of
5 for each parameter of the configuration, assigning at least one digit of the identifier
6 exclusively to the parameter,
7 assigning a value to each option for each parameter, and
8 constructing the identifier by assigning the value of each option corresponding to the
9 configuration to the digit of the identifier corresponding to the parameter for the option.

1 13. A computer implemented system for identifying a configuration using an identifier
2 having a plurality of digits, said configuration having a plurality of parameters and each of
3 said parameters having a plurality of options, one of said options for each parameter
4 corresponding to the configuration, said system including
5 means for assigning each digit of the identifier to a different parameter of the
6 configuration,
7 means for assigning a value to each option for each parameter, and
8 means for constructing the identifier based on the value of each option
9 corresponding to the configuration.

1 14. The computer implemented system according to claim 13 said system further
2 including
3 means for determining the greatest number of options for the parameters, and
4 means for selecting a radix for the identifier, said radix being equal to or greater than
5 the greatest number of options for a parameter of the configuration.

1 15. The computer implemented system according to claim 14, said system further
2 including means for assigning an exponent to each digit of the identifier, the digits of the
3 identifier ranging from a least significant rightmost digit having a digit place of one to a
4 most significant leftmost digit, each digit to the left of the least significant rightmost digit
5 having a digit place equal to one plus the digit place of the immediate adjacent right digit,
6 and said exponent being equal to the digit place minus one.

1 16. The computer implemented system according to claim 15, said system further
2 including
3 means for calculating a parameter value for each parameter by multiplying the value
4 of the option corresponding to the configuration for each parameter by the radix raised to
5 the exponent for the digit of the identifier corresponding to the parameter for the option,
6 wherein the means for constructing the identifier based on the value of each option
7 corresponding to the configuration further includes means for calculating the sum of the

8 parameter values.

1 17. The computer implemented system according to claim 16 wherein values assigned
2 to options for a parameter in excess of the tenth option are represented by symbols.

1 18. The computer implemented system according to claim 17, wherein the options for
2 a parameter include more than one set of options, the applicability of a set being
3 determined by the value of an option for another parameter corresponding to the
4 configuration.

1 19. The computer implemented system according to claim 18, wherein the means for
2 constructing the identifier based on the value of each option corresponding to the
3 configuration further includes means for constructing the identifier based on the following
4 equation:

5

$$\text{Identifier} = \sum_{i=1}^n \text{Option}_i \times R^{(i-1)}$$

6

7 Where:

8 n is the number of digits in the Identifier and the number of
9 parameters in the configuration;

10 Option_i is the value of the option for the ith parameter
11 represented by the ith digit of the Identifier, moving from right

12 to left with the 1st digit being the rightmost digit and the nth digit
13 being the leftmost digit; and
14 R is the radix for the Identifier.

1 20. A computer implemented system for providing information concerning subject matter
2 having multiparameter configurations, the system including records for desired
3 multiparameter configurations, the multiparameter configurations having a plurality of
4 parameters and each of the parameters having a plurality of options, one of the options for
5 each parameter corresponding to a desired multiparameter configuration, each of the
6 records including:

7 an identifier for the desired multiparameter configuration, said identifier including a
8 digit for each parameter of the multiparameter configuration; and

9 information concerning the subject matter having the multiparameter configuration
10 identified by the identifier.

1 21. A computer implemented system for providing information concerning subject matter
2 having multiparameter configurations as in claim 20, wherein said information concerning
3 the subject matter having the multiparameter configuration identified by the identifier
4 includes an illegal configuration reference if the multiparameter configuration is not valid
5 for the subject matter.